146464

RSPA-01-10318-4

EXEMPTION EVALUATION FORM

(Revised as of May 20, 1998)

PART 1 APPLICANT

1A. Exemption Number : 12782

Application Number: 41079

Project Officer : Cheryl West Freeman

1B. Date of Application: 7/18/01

1C. Name of Applicant: Ralph Diaz

Title:
Company Name: Air Liquide America Corp.
Address: 2700 Post Oak
Houston, Texas 77056

Phone Number: (202)463-3511

1D. U.S. Agent for foreign applicant or Consultant Name:

Patricia Quinn
Company name: HMT Associates
Address: 603 King St
Suite 300
Alexandria, VA 22314
Phone Number: (703)549-0727

1E. Summary of What Applicant is Requesting:
To authorize transportation in commerce of cylinder valve protection caps which are made from a material other than metal as specified in 173.301(g)(1).

1F. Regulation(s) exempted: 173.301(g) in that the valve protection caps are made from a material other than metal.

1G. Modes of Transportation:

1 Motor Vehicle (X) 2 Rail Freight ( )
3 Cargo Vessel ( ) 4 Cargo Aircraft ( )
5 Passenger Aircraft ( )

PART 2 REVIEW FOR DOCKETING

(X) Application contains sufficient information to support docketing.

( ) Application is incomplete or unnecessary and should be returned for the following reason(s).

PART 3 HAZARDOUS MATERIALS

3A. Hazardous Materials to be shipped:

Proper Shipping Name/ Hazardous Materials Description	Hazard Class/ Division	Identi-fication Number	Packing Group
Gases authorized in DOT specification cylinders	2.1, 2.2	As applicable	As applicable

3B. Is the hazardous material capable of being detonated? (If No - go to 3C) NO

If so, under what conditions?

(1) What special precautions have been taken to prevent these conditions in transportation?

(2) Has the hazardous material been classed as an explosive? _

- Has it been tested and approved under § 173.56?
- Is stabilization required and what type?

3C. Other risks presented by the material that warrant special assessment. (e.g. flammable or toxic gases produced upon contact with water, material can initiate or enhance a fire, article or device contains an ignition source)NONE

PART 4 PACKAGING

4A. Is the applicant seeking an exemption from the packaging requirements? NO
(If No - Go on to Part 5)

4B.
__ Non authorized specification package.
__ Authorized Specification package with quantity or size variation.
__ Material change.
__ Over authorized pressure.
__ Non specification package. Most comparable spec. package.

4C. What are the possible failure modes of the packaging?

Is the material of construction appropriate?

Will the packaging integrity be sufficient?

In the case of a pressurized packaging, will the package adequately contain any pressure that might develop?

Does packaging meet the performance requirements for air transportation?

Have evaluation of tests results shown the package to be equivalent?

4D. Are special handling measures needed (specify)?

PART 5 SPECIAL TRANSPORT AND INFORMATIONAL CONTROLS

5A. Is the applicant seeking an exemption from Special Transport and Informational Controls? (If No - go to Part 6) NO

5B. Indicate control from which variance is sought. (i.e., placarding requirements, etc.)

5C. What controls have been offered or might be appropriate to mitigate risks otherwise presented with the exemption?

5D. What special data collection and reporting requirements are needed to document experience and exemption performance?

PART 6 SHIPPING EXPERIENCE

6A. What has the generally shipping experience been with this type of material, package, and operation? N/A

6B. Can any rough estimate be made on the extent of the use of this exemption? How many shipments will be made and how much material will be transported? No estimate.

6C. Is this a new package with no shipping experience? YES

PART 7 SAFETY AND RISK ASSESSMENT

7A. 49 CFR § 107.105(d) prescribes requirements for justification of an exemption through comparisons with established levels of safety and risk assessment. Has the applicant demonstrated equivalent levels of safety or provided an appropriate risk analysis? YES.

7B. What are the hazards (worst case) posed by the proposed exemptions? What could go wrong? Are the risks significant? What is the degree of uncertainty as to likelihood or consequences? Risks are not significant.

7C. What are the benefits to the public and the applicant of granting the exemption? What trade-offs have been made? Possibly price.

7D. Does this exemption (and other similar exemptions) point to the need for possible regulatory changes? If so what other information is needed to support a regulatory change.

A proposal has already been made under HM-220 NPRM to remove the requirement that the valve protection be metal.

PART 8 DOCKET COMMENTS/INFORMATION

8A. Date checked: 10/22/01

8B. Comments: NONE (If Yes, summarize)

8C. Has **CONFIDENTIAL** or **PROPRIETARY** information (49 CFR 107.5) been considered in this application? NO

PART 9 OVERALL EVALUATION & RECOMMENDATION

Provide standard of equivalency and rationale supporting equivalent level of safety or comment on additional requirements needed to establish equivalency. Include main issues, evidence (i.e. tests), and technical conclusions. See note in Part VI concerning confidential information.

Air Liquide has requested an exemption from the requirement

in 49 CFR 173.301(g)(1) that the valve protection be made of metal. Air Liquide wishes to use a plastic device on cylinders containing Division 2.1 and 2.2 materials. The current requirement of 173.301(g)(1) is that the cylinders be equipped with:

> *"securely attached metal caps of sufficient strength to protect the valves from injury during transit".*

To demonstrate that the plastic device meets this requirement, Air Liquide has subjected the device to the 7ft drop test as specified in 173.40(d)(2) for toxic materials:

> *"Each cylinder ... must be equipped with a protective cap or other means of valve protection sufficient to protect the valve from deformation and breakage resulting from a drop of 2.0m (7ft) or more onto a concrete floor, impacting at an orientation most likely to cause damage."*

Six cylinders were dropped at various orientations. Although some minor damage to some of the valve hand wheels was noted, Arrowhead Industrial Services concluded that the valve protection device provided adequate protection. 30 minutes after each test, no leakage was observed.

Because the plastic devices have been shown to meet a more stringent requirement for toxic materials, an equivalent level of safety has been demonstrated.

Except for the requirement that the caps be made of metal, the plastic devices also meet or exceed the requirement of the proposed HM-220 NPRM wording in 173.301(h)(2):

> *"Each cylinder valve assembly must be of sufficient strength or protected such that no leakage occurs when a cylinder with the valve installed is dropped 1.8m (6ft) or more onto a non-yielding floor, impacting the valve assembly or protection device at an orientation most likely to cause damage."*

It is recommended that this exemption be granted.

Office of Hazardous Materials Technology (OHMT)
Office of Hazardous Materials Exemptions and Approvals (OHMEA)

Office: DHM-22.2

Project Officer/Date: CWF Cheryl West Freeman 10/22/01

Reviewer/Date: _____

Office Director/Date: Charles H. Yoder 10/22/2001

DOT-E 12782

Office Director/Date: Charles J. Hochman 10/22/2001